



NEWSLETTER
DECEMBER 1983

The Federal President's Column.

It is great news that the Tasmanian Branch is active again. I extend my congratulations to its Officers and all the members.

Since our last newsletter I visited the United States and spent approximately three weeks at the Dental School at U.C.L.A.

The reason for my visit was two-fold. With one hat I visited the Department of Paedodontics, and with the other - Community Dentistry - I attended several seminars related to Geriatric Dentistry.

The Paediatric Dentistry programme was very enlightening, and in particular the joint Master's programme in paedodontics and orthodontics. It seems to me that this joint Master's is an effort to bridge the common areas of paedodontics and orthodontics which has posed many difficulties world-wide. In fact, this dual Master's specialty would seem essential and complimentary in child health programmes offered at the under-graduate and graduate levels in Dental Schools.

The programme is not unique to U.C.L.A. and I understand there are about three Dental Schools in the U.S.A. proceeding with this combination.

The question to be asked is, "will it work?". The opinion in the U.S. is that it can, if all parties concerned "will let it".

Don't forget the South Australian Branch is holding it's Third Country Convention in Adelaide on 9th, 10th and 11th March, 1984. The programme is well-organised, and a lot of effort has gone into it. Its success depends on our participation.

Des Kailis

From the Federal Secretary.

The American Academy of Pedodontics is compiling a world directory of Pedodontists, and as a first step would like to compile a list of those who have graduated in pedodontics from Canadian and U.S.A. schools and who are practicing throughout the world. Would any such graduates please notify:-

Dr. Saul Rorberg,
Bosques de Duraznos 69-301,
Bosques de Las Lomas,
Deleg. Miguel Hidalgo,
C.P. 11700 MEXICO D.F.

The Academy expressed interest in holding continuing education courses in Australia, and I have replied asking for further details.

SUBSCRIPTIONS. - I remind members that 'subs' for 1984 are now due. Will you please pay yours promptly so that your branch secretary and I may have a less onerous task.

Tasmania - the Federal Executive welcomes the re-formed Tasmanian Branch back to the Society.

John Brownbill

Queensland Branch

The A.G.M. of the Branch was held on 11th October. In the absence of the outgoing President, John Brown, who is on overseas study leave, the meeting was chaired by Past-President John Keys.

The Office Bearers elected were -

President: Dr. Bill Wilson
Secretary: Dr. Bill Whittle
Committee Member: Dr. Carmel Junner
Federal Rep.: Dr. John Keys

The last regular meeting was held on Monday 21st November at 8 pm when our Guest Speaker was Dr. David Thompson. His subject was "Post Crowns in Adolescents and Cast Restorations of Root Treated Posterior Teeth".

David was a 1970 Graduate of University of Queensland and completed his M.D.Sc in 1977. He was a visiting Professor in the Department of Fixed Prosthodontics at Northwestern University 1979-80. After a period as Lecturer at University of Queensland, 1980-83, he entered private practice in his speciality of Crown and Bridge.

Comment was made by several members that the apparent 'decline in caries rate' may have bottomed out. A high incidence has been noted among pre-school and grade one groups.

At our next meeting - Monday February 6th, Dr. Geoff Grundy who is Principal Dental Officer, Training, with the Queensland School Dental Service will talk on "Cysts Associated with Pulp Treated Deciduous Molars".

Drs. Carmel Junner and Anne Symons will give short addresses on 'incidents in practice'.

Carmel Junner

Tasmanian Branch

A dinner meeting of A.S.D.C. prospective members was held on Friday 21st October. At the meeting, attended by seven dentists and their wives, it was unanimously decided to reform the A.S.D.C. Tasmanian Branch.

Other previous members unable to attend the dinner indicated their support. Dr. Dennis Badger was elected President of the Branch and Dr. Felix Goldschmeid was elected Secretary/Treasurer.

The next meeting of the Branch will take place in February 1984. The previous Constitution of the A.S.D.C., Tasmanian Branch will apply to the present re-established Branch.

Members of this Branch wish to extend their best wishes for the Festive Season to other state branches.

Felix Goldschmeid

"Update on Caries Research - A Caries Predictive Test"

(A summary of a Paper presented to the S.A.Branch by Dr.A.H.Rogers*, August, 1983)

There are good reasons why a reliable Caries Predictive Test (CPT) would be most valuable; for example, if one could identify, in advance, those children who are at greater risk of developing caries, - then intensive preventive measures could be aimed at those "high-risk" individuals. Of equal importance, the efficacy of such preventive programmes could be assessed.

In addition, child and adult patients upon whom extensive restorative work has been done sometimes re-present with widespread secondary caries. For diagnosing 'caries-risk', an objective method that would allow us to plan and subsequently to monitor the effectiveness of simple control procedures before expensive restorative work is commenced, would be valuable.

A research group at the University of Göteborg, Sweden, recently developed a CPT based on, Salivary Streptococcus mutans and Lactobacillus counts, flow rate and buffer capacity(1). In a group of some 600 school-children, aged 9 - 12 years, these workers followed the caries increments, after one and two years, comparing them with a number of factors registered at baseline. The best prediction of caries

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activity was obtained by coupling the factors - incipient smooth surface lesions, *S. mutans* and the *Lactobacillus* counts. However, it was pointed out that only 'fresh' incipient smooth surface lesions in the primary dentition should be used for caries prediction and since this type of lesion can cause large methodological errors at clinical examinations, then the value of including the microbiological analysis is rather obvious.

Accordingly, in the Swedish School Dental Service, selection of children for special caries-preventive measures is now based on salivary counts of *S. mutans* and *Lactobacillus*. These measures in such children have reduced salivary counts of these organisms with a concomitant reduction in caries incidence(2). Also in the Swedish Dental Health Programme for adults, such tests are recommended when clinical and radiographic examinations reveal that a high caries risk might be expected and when extensive restorative treatment is planned.

Also, it is noteworthy that basic preventive programmes in a group of Swedish mothers, heavily infected with *S. mutans*, successfully reduced their salivary levels below a selected threshold 3×10^5 per ml. At or below this level, the transmission of the cariogenic organism from mother to infant was prevented or greatly delayed(3). This is of significance in view of our own observations(4) that the mother appears to be the source of infection with regard to dental caries.

Last year, Dr. Mona Svanberg of the Department of Cariology, Göteborg University, spent 3 months in my laboratory, as a result of which we have modified and improved the CPT. It is now being used by some South Australian practitioners on appropriate patients.

Recently, Dr. Martin Dooland(S.A.Dental Services) and I have been awarded grants from both the Channel 10 Children's Medical Research Foundation and the S.A.Health Commission to study the applicability of the CPT in 5-6 year old children treated by the School Dental Service in South Australia.

The CPT involves the following steps:-

1. Stimulated saliva is collected in a small measuring cylinder; this proceeds until 5ml. are collected or for at least 2 minutes - salivary flow is, thus easily calculated. One ml. is transferred to a small bottle containing a transport fluid.
2. The bottle is sent to our laboratory where microbiological analysis is performed. Using selective media, counts of *Strep. mutans* and *Lactobacillus* can be determined.

An individual is considered to be 'at risk' when the salivary levels of *Strep. mutans* and *Lactobacillus* exceed 10^6 and 10^5 per ml., respectively and when the salivary flow-rate is less than 0.7ml. per minute.

Finally, the procedure in patients with 'high' *S. mutans* and *Lactobacillus* levels involves, sequentially, dietary counselling, fluoride (NaF or SnF_2) application or chlorhexidine-gel treatment. For objective assessment of the effectiveness of the treatment, and because the re-emergence rate of *S. mutans* varies in differing circumstances and between individual patients, continuing evaluation by bacterial tests, should be carried out.

References:

1. Klock, B. and Krasse, B. 1979. Scand.J.den.Res. 87, 129-139.
2. Klock, B. and Krasse, B. 1978. Scand.J.den.Res. 86, 221-230.
3. Kohler, B., Bratthall, D. and Krasse, B. 1983. Archs. Oral Biol. 28, 225-231.
4. Rogers, A.H. 1981. Caries Res. 15, 26-31.

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University of Adelaide.

STORAGE OF AVULSED TEETH IN MILK.

A vital periodontal membrane (PDM) has been found to be of ultimate importance for the successful healing of replanted teeth. Replantation of a tooth with a necrotic PDM results in progressive root resorption. Immediate replantation of traumatically avulsed teeth should therefore be a primary goal. This is not always possible, and, thus, various storage media have been tested. Keeping the avulsed tooth in air causes drying of the PDM and necrosis of the PDM cells. Storage in tap water has been shown to be almost as damaging to the cells of the PDM as dry storage. Saliva seems both to retain the vitality of the periodontal cells and to allow short-term storage of avulsed teeth prior to replantation. Saline has been found to be about as good a storage medium as saliva. The fact that saline is seldom available when an accident occurs limits its usefulness.

Recently, dairy milk was suggested as a storage medium for traumatically avulsed teeth. It has a physiologic osmolality and contains markedly fewer bacteria than does saliva. In an experimental in vivo study, teeth registered significantly less inflammation in the PDM and less inflammatory resorption when stored in milk prior to replantation than when stored in saliva.

This study showed that milk is superior to saliva as a storage medium for exarticulated teeth prior to replantation. It could thus be recommended for clinical use in cases when immediate replantation is not possible. It should, however, be kept in mind that milk does not revitalize dead cells, and furthermore, a tooth that has dried out and then been kept in milk prior to replantation has probably the same poor prognosis as any other dried and replanted tooth.

(L. Blomlöf et al. J. Dental Research
62(8):912-916, August 1983)

THE USE OF TOPICAL FLUORIDES IN ADULTS.

Despite a large and growing body of literature about the effects of topical fluorides in children, there are only a few clinical studies of the effects of fluorides in adults. It has been traditional to consider separately the results of clinical trials conducted in children and adults. The first studies of topical fluorides were conducted with children, and early investigators believed that it was important to apply fluoride soon after of teeth to achieve the greatest benefits.

This concept was reinforced by the lack of success of some earlier trials of fluorides in adults, using procedures that had been effective in children. Although the results of many later trials were positive, the distinction has been maintained.

It can be stated that topical fluorides can be of significant benefit to adults when used in a variety of forms and procedures. Too few studies have been done, however, to allow estimates of the relative effectiveness of the various procedures or to rank them in order of effectiveness.

(Swango Philip. JADA Vol 107 Sept. 1983)
DENTAL CARIES AND STRONTIUM CONCENTRATION IN DRINKING WATER.

The significance of the trace elements other than fluorides on the development of dental caries has been a matter of interest in dental research. Among them strontium has been referred to as a possible cariostatic agent; this evidence has been derived from a number of experimental and epidemiological studies. The mechanism by which strontium may affect the reduction of caries is not yet clear. One possible explanation involves the incorporation of strontium into enamel as a substitute for calcium during tooth development..

Most of the surveys concerning the relationship of strontium to the prevalence of dental caries was conducted in areas with optimum concentrations of fluoride in drinking water. The present study was designed to investigate the effect of strontium on the development of dental caries in the absence of effective fluoride concentrations. This was done by relating the DMFT index to strontium concentration in drinking water and in surface enamel. For this purpose a survey of dental caries was conducted in two selected neighboring districts where the drinking water contains low amounts of fluoride and selenium, at almost the same concentrations but with different amounts of strontium.

The findings from this study support the concept that the strontium incorporation in dental enamel renders it more resistant to caries.

(Athanassouli T.M. et al J. Dental Res.
62(9):989-991, September 1983)